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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.      | CONFIRMATION NO. |
|--|-------------|----------------------|--------------------------|------------------|
| 10/789,931   | 02/27/2004  | Roy Greeff           | 303.881US1               | 6807             |
| 21186 7590 05/29/2007<br>SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.<br>P.O. BOX 2938<br>MINNEAPOLIS, MN 55402 |             |                      | EXAMINER<br>LEE, BENNY T |                  |
|  |             |                      | ART UNIT                 | PAPER NUMBER     |
|  |             |                      | 2817                     |                  |
|  |             |                      | MAIL DATE                | DELIVERY MODE    |
|  |             |                      | 05/29/2007               | PAPER            |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                               |                             |  |
|------------------------------|-------------------------------|-----------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/789,931 | Applicant(s)<br>GREEFF, ROY |  |
|                              | Examiner<br>Benny Lee         | Art Unit<br>2817            |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 March 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6-9, 11-15, 17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6; 7-9, 11, 12; 13-15, 17; 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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Claims 1-4, 6; 7-9, 11, 12; 13-15; 17; 18 are rejected under 35 U.S.C. 112, first paragraph, as the specification does not contain a written description of the claimed invention, in that the disclosure does not reasonably convey to one skilled in the art that the inventor(s) has possession of the claimed invention at the time the application was filed.

With respect to independent claims 1, 7, 13, 18, it should be noted that the amended limitation that the “thickness” of the dielectric coating “over the at least one microstrip line” is “greater” than the “thickness” of the dielectric coating “in at least one other area of the substrate” appears to be deviation from the original claim recitation that the “thickness” of the dielectric coating “over the at least one microstrip” is greater than “an average thickness of the coating material”, and as such appears to be “new matter”.

With respect to claim 2, it should be noted that the amended limitation appears to be significantly different from the original claim limitation, and thus has been treated as “new matter”. In particular, regarding the “dielectric constant of the printed circuit board” being “below the dielectric constant 1.0 of free space”, such limitation do not appear to have been supported by the original disclosure.

However, if applicant does not believe the above issues are “new matter”, then an appropriate explanation is required including pointing out where support for the limitation(s) in question can be explicitly found in the original specification.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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In claim 2, note that the recitation that the “dielectric constant of the printed circuit board” being “below the dielectric constant 1.0 of free space” does not make sense since those skilled in the art recognize that the “dielectric constant 1.0 of free space” as being the lowest dielectric constant possible and thus it is unclear how it can be physically possible to have materials whose dielectric constant can be below or less than 1.0 for free space. Clarification is needed.

The following claim has been found objectionable for reasons set forth below;

In claim 1, line 6, note that --of the two-- should precede “microstrip lines” for consistency in claim terminology.

Applicant's arguments filed 8 March 2007 have been fully considered but they are not persuasive.

Regarding the rejection based on inadequate written description (i.e. “new matter”) with respect to claims 1, 7, 13, 18, applicant has argued that the limitation of the thickness of the dielectric coating over the “at least one microstrip line” being “greater than a thickness of the coating material in at least one other area of the substrate would have been construed as being equivalent to the original claim language of the “thickness of the dielectric coating over the microstrip line” being “greater than the average thickness of the dielectric material”. Applicant concludes that since the thickness over the microstrip line is greater than the average, then it must inherently be greater over the other area of the substrate. Moreover, applicant points to Figure 6, where portion (605) tapers down in a region not over the microstrip lines, as supporting the claimed recitation.

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In response, the examiner has considered the language of the original claim as compared to the language of the presently amended claim, but still is unable to reconcile whether the amended claim language would have been equivalent to the original claim language. In particular, the specific language which remains troubling to the examiner is the “greater than the average thickness of the dielectric material”, which presumably had a specific meaning at the time it was presented. Such a limitation regarding the “average thickness” is no longer in the amended claims and applicant’s comments still do not appear to reconcile why there is no distinction between the original and amended terminologies. In particular, the examiner is still unable to reconcile how for the “dielectric material”, a reference to an “average thickness” can have the same meaning as a reference to the “other area of the substrate”. Accordingly, for the reasons stated, these claims continue to be appropriately rejected as lacking an adequate written description.

Regarding the rejection of claim 2, applicant contends that the amended language merely restates the intent of the original claim language and thus should not be considered “new matter”.

However, as pointed out in the above rejections, such language appears to be a significant deviation from the original claim language as well as not making sense (i.e. especially if the dielectric constant of free space (i.e. 1.0) is nominally recognized as the lowest dielectric constant possible, how can some dielectric material possibly have a lower dielectric constant?). Applicant’s response fails to adequately address these issues and thus these rejections have been sustained.

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Regarding the prior art rejections, in view of the interpretation of the amended claims, the prior art rejections have been withdrawn. However, upon the resolution of the written disclosure issues, the examiner reserves the right to re-apply these rejections, if appropriate.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to Benny Lee at telephone number 571 272 1764.

  
BENNY LEE  
PRIMARY EXAMINER  
ART UNIT 2817